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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,516	06/29/2005	Gou Shimada	Q8-4937	5133
23373	7590	03/18/2008		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER PRAKASAM, RAMYA G	
			ART UNIT 3651	PAPER NUMBER
			MAIL DATE 03/18/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/516,516

**Applicant(s)**

SHIMADA, GOU

**Examiner**

RAMYA G. PRAKASAM

**Art Unit**

3651

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-20 is/are pending in the application.
- 4a) Of the above claim(s) 16-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-15 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/003)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

1. The amendment filed on 12/19/2007 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 10-15 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Putti (U.S. Patent No. 6,331,069).

Putti discloses a screw for use in an extruder comprising:

- A cylinder (See Figure 7);
- Wherein a height of a flight portion of the screw located below the hopper port is lower than a height of a flight portion located at a downstream side and continuously changes in a peripheral direction at a predetermined angle with respect to an axial direction of the screw (See Figure 7 and 8, Column 5, lines 60-67 – Column 6, lines 1-6).
- Wherein a portion where the height of the flight portion is lower than the height of the flight portion on the downstream side has an angle of 180 or less (See Figure 7).
- Wherein the number of threads on an upstream side of the screw is made smaller than a number of threads on the downstream side (See Figure 7).

- Wherein an interval of the threads on an upstream side is made wider than an interval of the threads on the downstream side (See Figure 7).
- Wherein the diameters of the threads on an upstream side of the screw are made larger than the diameters of the threads on a downstream side (See Figure 7).
- Wherein the height of the flight portion located below the hopper port is between 2% and 6% smaller than the diameter of the screw (See Figure 7).
- Wherein the cylinder has a consistent inner diameter from the hopper port to a last thread of the screw at the downstream end (See Figure 1).

***Response to Arguments***

5. Applicant's arguments filed on 12/19/2007 have been fully considered but they are not persuasive.

With regards to applicant's argument that Putti does not disclose a screw having a flight portion below the hopper port with an initial height less than the height of a downstream flighting, this aspect is clearly shown in both Figures 7 and 8, where the flighting below the hopper portion has an initial height (d1) less than the height of a downstream flighting (d2). Therefore, this limitation is disclosed.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAMYA G. PRAKASAM whose telephone number is (571)272-6011. The examiner can normally be reached on Monday - Thursday, 8:30am-7pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on (571) 272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

3/2/2008  
RGP

/Gene Crawford/  
Supervisory Patent Examiner, Art Unit  
3651